

What is claimed is:

1. A closed fluidic sampling system comprising:
  - a first port for receiving a sample of fluid;
  - 5 a sampling chamber in fluid communication with the first port;
  - a one-way valve for allowing fluid to flow from the first port towards the sampling chamber while preventing backflow of fluid towards the first port; and
  - 10 a second port in fluid communication with the sampling chamber, the second port for withdrawing fluid from the sampling chamber.

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2. The system according to claim 1, wherein the second port includes a hollow spike, the hollow spike having a piercing end for piercing a first container.
- 15 3. The system according to claim 1, wherein the second port is closed and is capable of being attached to a first container by a sterile connection device.

4. The system according to claim 1, further comprising:
  - a connector;
  - 20 first tubing coupled at one end to the first port and at another end to the connector;
  - second tubing coupled at one end to the sampling chamber and at another end to the connector; and
  - third tubing coupled at one end to the second port and at another end to the connector.

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- 25 5. The system according to claim 4, wherein the connector is a Y-connector.
6. The system according to claim 4, wherein the one-way valve is positioned within the first tubing.
- 30 7. The system according to claim 1, wherein the sampling chamber includes indicia for indicating a predetermined volume of fluid within the sample chamber.

8. The system according to claim 1, wherein the sampling chamber includes indicia for indicating a predetermined volume of fluid within the system.
- 5 9. The system according to claim 1, further including a gas vent in fluid communication with the sampling chamber, the gas vent for venting gas displaced by the sample.
10. The system according to claim 9, wherein the gas vent includes a filter.
- 10 11. The system according to claim 1, wherein the first port is closed and is capable of being attached to a second container by a sterile connection device.
12. The system according to claim 11, wherein the second container is a blood product bag.
- 15 13. The system according to claim 1, further comprising a second container in fluid communication with the first port.
14. The system according to claim 13, wherein the second container is a blood product bag.
- 20 15. The system according to claim 1, wherein the first port is attached to a gas vent, the gas vent including a filter.
16. The system according to claim 1, wherein the sampling chamber is made of a flexible and resilient material.
- 25 17. The system according to claim 16, wherein the sampling chamber defines a pre-determined volume when in a resting state.

18. The system according to claim 16, wherein the sampling chamber is capable of being squeezed so as to expel fluid from the sampling chamber, and further released so as to create a vacuum for acquiring the sample fluid.
- 5     19. The system according to claim 18, wherein after being released, the sampling chamber returns to a predetermined volume.
20. The system according to claim 1, wherein the sampling material is made of a rigid material.
- 10    21. The system according to claim 1, wherein the one-way valve prevents backflow of at least one of air and liquid.
- 15    22. The system according to claim 1, further comprising a clamp for controlling flow of fluid entering from the first port.
- 20    23. A closed fluidic sampling system comprising:
  - a sampling chamber;
  - a first conduit in fluid communication with the sampling chamber, the first conduit for receiving a sample of fluid;
  - 25    a one-way valve, disposed in the first conduit, that allows fluid to flow downstream towards the sampling chamber while preventing backflow of fluid from the sampling chamber; and
  - withdrawal means for enabling withdrawal of fluid from the sample chamber.
- 25    24. The system according to claim 23, wherein the withdrawal means includes a hollow spike in fluid communication with the sample chamber, the hollow spike including a piercing end.
- 30    25. The system according to claim 24, wherein the piercing end is covered by a removable cap to prevent exposure and accidental damage.

26. The system according to claim 24, further comprising a first container capable of being pierced by the piercing end of the hollow spike.

5      27. The system according to claim 26, wherein the first container includes a septum and wherein the piercing end of the hollow spike is capable of piercing the septum.

28. The system according to claim 26, wherein the first container is evacuated prior to being pierced by the piercing end of the hollow spike.

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29. The system according to claim 24, further comprising:

      a connector enabling fluid communication between the first conduit, the hollow spike, and the sample chamber.

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30. The system according to claim 29, wherein the connector is a Y-connector.

31. The system according to claim 23, wherein the withdrawal means includes a second conduit in fluid communication with the sample chamber, the second conduit positioned downstream from the one-way valve.

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32. The system according to claim 31, wherein the second conduit is closed at a first end, the first end capable of being attached to a first container by a sterile connection device.

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33. The system according to claim 31, wherein the second conduit is coupled to a hollow spike, the hollow spike including a piercing end.

34. The system according to claim 31, further comprising:

      a connector, the connector enabling fluid communication between the first conduit, the second conduit, and the sample chamber.

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35. The system according to claim 34, wherein the connector is a Y-connector.

36. The system according to claim 23, wherein the first conduit is sealed at a first end, the first end upstream from the one-way valve and capable of being attached to a second container by a sterile connection device.

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37. The system according to claim 36, wherein the second container is a blood product bag.

38. The system according to claim 23, wherein the first conduit is in unitary construction with, and attached at a first end to, a second container, the first end upstream from the one-way valve.

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39. The system according to claim 38, wherein the second container is a blood product bag.

40. The system according to claim 23, wherein the first conduit is attached at a first end to a gas vent, the gas vent including a filter, the first end upstream from the one-way valve.

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41. The system according to claim 23, wherein the sampling chamber includes indicia that indicates a predetermined volume of fluid within the sample chamber.

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42. The system according to claim 23, wherein the sampling chamber includes indicia that indicates a volume of fluid downstream from the one-way valve.

43. The system according to claim 23, further comprising a gas vent in fluid communication with the sampling chamber, the gas vent for venting gas displaced by the sample.

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44. The system according to claim 43, further comprising a filter positioned between the sampling chamber and the gas vent.

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45. The system according to claim 23, further comprising a clamp for controlling flow of fluid in the first conduit.

46. The system according to claim 23, wherein the sampling chamber is flexible and resilient.

5       47. The system according to claim 46, wherein the sampling chamber defines a pre-determined volume when in a resting state.

48. The system according to claim 46, wherein the sampling chamber is capable of being squeezed so as to expel fluid from the sampling chamber, and further released so as to create a vacuum for acquiring the sample fluid.

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49. The system according to claim 48, wherein after being released, the sampling chamber returns to a predetermined volume.

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50. The system according to claim 23, wherein the sampling chamber is made of a rigid material.

51. The system according to claim 23, wherein the one-way valve prevents backflow of at least one of air and liquid.

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52. A method for obtaining a sample of a fluid from a fluid source, the method comprising:

introducing the fluid through a first port in fluid communication with the fluid source;

allowing the fluid to flow from the first port towards a sampling chamber while preventing backflow of fluid towards the first port; and

withdrawing the fluid from the sampling chamber via a second port.

25       53. The method according to claim 52, further comprising testing the fluid withdrawn from the sampling chamber.

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54. The method according to claim 53, wherein testing includes at least one of bacterial detection and cell counting.
55. The method according to claim 52, further comprising attaching a sample vial to a second port, the second port in fluid communication with the sampling chamber.
56. The method according to claim 52, wherein the first port is in unitary construction with, and attached to, the fluid source.
- 10 57. The method according to claim 52, wherein the first port is sealed, and wherein introducing the fluid includes attaching the first port to the fluid source using a sterile connection device.
- 15 58. The method according to claim 54, wherein attaching the first port to the fluid source includes applying heat to the first port.
59. The method according to claim 55, wherein applying heat includes applying a radio frequency signal.
- 20 60. The method according to claim 52, wherein allowing the fluid to flow from the first port towards the sampling chamber while preventing backflow of fluid towards the first port includes providing a one-way valve positioned between the first port and the sampling chamber.
- 25 61. The method according to claim 52, wherein the sampling chamber is flexible and resilient, and wherein introducing the fluid into the first port includes squeezing the sampling chamber to create a vacuum, followed by releasing the sampling chamber to create a vacuum in the sampling chamber.
- 30 62. The method according to claim 61, wherein releasing the sampling chamber includes returning the sampling chamber to a predefined volume.

63. The method according to claim 52, further comprising venting the gas displaced from the fluid entering the sampling chamber.

5       64. The method according to claim 58, wherein the sampling chamber is in fluid communication with a vent, the method further comprising filtering the vent.

65. The method according to claim 52, wherein introducing the fluid into the first port includes opening a clamp that controls flow of fluid through the first port.

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66. The method according to claim 52, wherein the sampling chamber includes indicia corresponding to a predetermined volume of fluid, and wherein introducing the fluid into the first port includes:

comparing an amount of fluid entering the sampling chamber with the volume level indicated by the indicia; and

stopping the flow of fluid through the first port upon fluid reaching the indicia.

67. The method according to claim 52, wherein the fluid source is a blood component bag.

20       68. The method according to claim 67, wherein the fluid is chosen from the group of fluids consisting of platelets, whole blood, red cells, and plasma.

25       69. The method according to claim 55 wherein the second port includes a hollow tube in fluid communication with the sampling chamber, the hollow tube including a piercing end, wherein the sample vial includes a septum, and wherein attaching the sample vial to the second port includes piercing the septum with the piercing end.

70. The method according to claim 69, wherein the second port is sealed, and wherein attaching the sample vial to the second port includes utilizing a sterile connection device.

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71. The method according to claim 70, wherein attaching the sample vial to the second port includes applying heat to the second port.

5       72. The method according to claim 70, wherein applying heat includes applying a radio frequency signal.

73. The method according to claim 55, wherein the sample vial includes an evacuated volume forming a vacuum, the method further comprising drawing the fluid from the sample chamber into the sample vial due to the vacuum.

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74. The method according to claim 55, further comprising squeezing the sample chamber to expel the fluid in the sample chamber into the sample vial.

75. A closed fluidic sampling system comprising:

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a connector;

a first port coupled to the connector via a first conduit, the first port for receiving a sample of fluid;

a one-way valve for allowing fluid to flow from the first port towards the connector while preventing backflow of fluid towards the first port;

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a second port coupled to the connector via a second conduit, the second port for withdrawing the sample of fluid; and

a sampling chamber coupled to the connector via a third conduit, wherein the connector allows fluid communication between the first port, the second port, and the sampling chamber

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